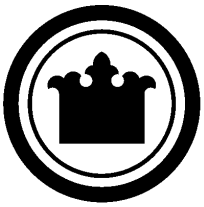

King County

Exhibit A: Requirements for Web Content Management Implementation at King County

Requirements
All WCMS requirements are for out-of-box functionality. If a requirement can only be met with additional effort, tools or products, this shall be clearly spelled out in the response, including any associated pricing information.

Proposers shall respond to all items. If an item does not include specific response instructions, indicate whether the system or Proposer can meet the requirement (Yes or No), and include any relevant details.

The Proposer shall respond to all requirements using Exhibit "B". If a response requires additional exhibits or appendices, reference these in the "Contractor Response" field in Exhibit "B" and attach to the final proposal.

Next to the title of each requirement is an indication of the requirement's current rating, indicated as follows:

(R) = Required

(SD) = Strongly Desired

Technical Requirements

1. Content creation

1.1. WYSIWYG (what you see is what you get) authoring (R)

The WCMS shall provide a powerful and easy-to-use WYSIWYG ('what-you-see-is-what-you-get') authoring environment for content creators. This authoring interface shall be browser-based, to facilitate widespread use throughout the organization. It should create code compliant with Web standards, including XHTML.

The Proposer should specify how the following features are supported by the authoring environment:

- paragraph and character styles
- image insertion
- table creation and editing
- creation of hypertext links, both to pages within the site and to external sites
- ability to restrict or remove specified formatting options (such as fonts, colors, etc)
- Undo/redo typing
- Code view (indented)
- Full-screen editing

Overall, functionality should be comparable to basic word-processing software, and should be cross-browser functional (or at least functional in Internet Explorer 6 and above).

1.2. Structured authoring (R)

The site contains a number of highly-structured 'content types', such as media releases, meeting minutes, and news items. The WCMS (WCMS) shall provide a structured authoring environment for these types, using a templated approach or equivalent.

These templates provide fields to enter information, which are then mapped to specific locations on the final published pages.

The Proposer shall outline the level of support that is provided for this type of template-based authoring.

1.3. Online forms (SD)

The WCMS should provide robust, powerful and extensible capabilities regarding the creation and management of online forms.

- The Proposer should describe how an author or administrator can create a new form using the WCMS.
- The Proposer should provide screenshots of the authoring environment provided for the forms.
- The Proposer should list the range of form fields and controls provided by the forms system.
- The Proposer should indicate the standard validation capabilities provided by the forms system, and whether custom rules can be configured.
- The Proposer should indicate whether it is possible to create and manage more complex forms with complex features such as multi-page forms, advanced form logic, pre-filling data based on cookies, data tabulation, reporting.
- At a minimum, the information entered into forms by site visitors should be stored in a repository within the WCMS. An interface should be provided for viewing the data captured, as well as performing simple manipulations (such as editing or deleting records).
- It should also be possible to configure the WCMS so that notifications are sent to a specified e-mail address when a form is completed by a site visitor.
- If the data entered by visitors is stored within the WCMS, the Proposer should indicate which formats the data can be exported to. It is expected that formats will include: CSV, XML, e-mail
- The Proposer should also indicate whether this export should be initiated manually, or whether it can be automated (via an API or other mechanism).
- The Proposer should finally specify what it has done to limit the possibility that forms will be used maliciously (spam bots, SQL injection, javascript uploads, etc.), and indicate any known vulnerabilities.

1.4. Additional authoring environments (SD)

The Proposer is invited to outline any other authoring environments offered beyond the standard browser-based WYSIWYG tool. Examples might include:

- The use of Microsoft Word (or other office tools) as an authoring or submission interface for the WCMS.
- XML-based authoring, either using built-in WCMS capabilities or via the use of a third-party authoring tool.
- Integration with other enterprise systems, to support either manual or automated migration of content.

Details should be provided on how these tools work in practice, and how they can be used to meet the specific requirements outlined in this document.

Specific information should be provided regarding:

- capabilities of these tools, in terms of writing and managing content
- validation of information submitted, particularly when writing structured content
- how consistent styles and formatting are ensured
- how linking to other pages within the WCMS is managed
- level of knowledge required by the authors, particularly any technical knowledge
- browsing of documents in the repository from within the desktop application
- integration with the WCMS workflow capabilities

1.5. Automated content conversion tools (SD)

A large volume of existing content may be migrated into the WCMS. The county will also continue to use a range of office tools to create new content.

- Please describe formats that are supported for migration, such as Word, Excel, rtf
- Features of conversion tools
- How links are created and managed when migrating
- How consistency is maintained

1.6. WCMS usability (R)

For the WCMS to be successful, it should be used widely throughout the organization. As it will be used primarily by non-technical authors, it should present an accessible, encouraging and non-threatening interface.

Wherever possible, tool users should be shielded from the complexities of content management, and the details of the underlying system.

Such an interface is critical to reducing the resistance to change within the organization.

The WCMS software shall therefore meet a high standard of usability. This includes being:

- quick to learn
- easy to use
- efficient for skilled users
- error-resistant, and fault-tolerant
- obvious in its use, without requiring extensive knowledge

This applies to all aspects of the software, including the authoring, content management, and publishing interfaces.

1.7. Copy-and-paste from Microsoft Word (SD)

The authoring environment should allow content to be copy-and-pasted directly from Microsoft Word. Ideally, it should also retain formatting, but only that which is allowed by the WYSIWYG tool and any related stylesheets. The WCMS should ‘clean’ the content that is pasted in from Word, removing:

- invalid and unnecessary HTML and XML
- Word-specific formatting
- all other extraneous codes added by Word

The WCMS should also reformat the content to match the standard paragraph styles and templates setup for the site.

This cleaning of content should occur automatically, without requiring the author to take any additional steps. It should not be possible to publish any content that has not been ‘cleaned’ in this manner.

1.8. Linking capabilities (R)

Authors should have a simple mechanism for creating a range of links between pages, including hypertext links within the text, and links to related topics.

Support for linking should ideally be provided from within the WYSIWYG editor. Selecting the topic to link to should be a ‘point and click’ process for the tool user, with a number of searching and browsing interfaces.

1.8.1. Link continuity despite site reorganization (R)

The linking between topics shall not be affected by a reorganization of the overall structure of the repository. Moving topics should not generate broken links.

The typical way of ensuring this is to link using some form of database 'topic ID' that is associated with the topic throughout its lifetime.

1.8.2. Link management (R)

A large number of links will be made between topics in the repository. The WCMS shall provide a number of tools for managing these, such as:

- automated link checking, to ensure that there are no broken links
- consistency checking should occur in real time, so that problems can be quickly identified and solved
- global views of the links
- reports listing subsets of the links within the repository
- Disabling or automatic removal of broken links
- Broken link reporting/alerting

In addition to global features, a linking interface should be provided at a local level when editing individual sites and pages. This should present the links in a clear and obvious fashion.

1.9. Data Table support (R)

Many pages make extensive use of data tables (as opposed to layout tables, which should be controlled through the templating process). The WCMS authoring environment shall therefore provide a simple mechanism for creating and editing tables.

The Proposer shall describe capabilities including:

- table creation (rows, columns)
- direct manipulation of tables from within the editor
- row and column spanning
- table headers and footers
- limited formatting control over tables
- cell merge
- row and column delete

1.10. Non-technical authoring (R)

Non-technical staff should be able to create Web pages easily, without specific technical skills (in HTML, CSS, etc.) or third party tools.

1.11. Separation of content and presentation (R)

It is not possible to publish to multiple formats without a strict separation of content and presentation. This means that authors enter the content of a topic, and all formatting is applied by the publishing engine. This may include the implementing CSS, XSLT or other templating technologies. Please describe the mechanisms used to separate content from presentation, and any exceptions (necessary or optional), such as manual formatting using the WYSWYG environment.

1.12. Metadata support (R)

The WCMS shall allow a range of metadata entries (such as creator, subject, keywords, etc) to be gathered for each topic. The Proposer shall describe how metadata is defined and input by content creators, as well as how the following are implemented:

- Default value
- Mandatory fields
- Flexibility in using various form fields such as menus, checkboxes, and text fields.

The Proposer shall describe how metadata is managed (defined, submitted, and incorporated on the site).

1.12.1. Dublin-core and Washington GILS metadata set (SD)

As a baseline, the WCMS should be able to support the Dublin-core (http://dublincore.org/documents/dces/) and /or Washington GILS (http://find-it.wa.gov/metadesc.htm) metadata fields.

1.13. Index support, in support of searching and browsing the published site (SD)

It should be possible for County staff to enter index terms (keywords) for each topic created. These terms are then used as part of the browsing and searching user experience on the site.

Indicate which of the following are supported and how:

- Controlled-term thesaurus
- Global view showing the index as a whole
- Index manipulation tools
- Index 'see' and 'see also' relationships
- Global taxonomy
- Topic map

1.14. Content reuse (SD)

A single page will often be used in different contexts, or delivered to different user groups. This is a prerequisite to managing different systems from the same content source.

The Proposer Shall specify how the following are supported:

- having a single page of content appear in multiple locations on a site
- formatting these multiple occurrences to match the appearance of each site section
- publishing a page to multiple sites (such as an intranet and Web site)

The Proposer Shall describe the tools provided to the authors and administrators for managing the reuse of content. Particular attention should be given to outlining how content reuse has been made simple and easy to use for general authors.

1.15. Multi-user authoring (R)

The WCMS will be used by many simultaneous tool users across the enterprise. It shall therefore provide a range of features to prevent or manage situations where two (or more) users attempt to change a single topic at the same time.

The Proposer shall describe how these issues are avoided when using the WCMS.

1.16. 'Red-lining' in editor (SD)

The WCMS will be used to create and then edit information to be published to the online sites. Beyond workflow capabilities, the editing environment should offer 'red-lining' capability.

Red-lining automatically marks added text, as well as deleted material. Using this feature, it is easy to track exactly what changes have occurred between versions, thereby assisting authors to edit and update material.

(This is roughly equivalent to the 'track changes' feature in Microsoft Word.)

1.17. Global search & replace (SD)

Authors should be able to conduct full-text searching across the entire content repository. Ideal functionality would include:

- full-text searching
- structured (or fielded) searching

- searching by time/date changed or added
- global and site-specific search-and-replace

The Proposer should indicate how this feature is used, and whether these features are provided as a standard part of the WCMS, or whether a third-party component is required.

1.18. Navigation aids (R)

Authors will require a wide range of navigation aids to work effectively in a large content repository. Ideal functionality includes:

- browsing the hierarchy of topics
- browsing the index (and other metadata)
- relevant list-based views of topics
- Browsing by time/date change
- Browsing by time/date added
- Browsing by data type (images, .docs, .pdfs…)
- Browsing by multiple facets (audience type, category, date)

The Proposer shall describe what navigational aids are available. And which items require custom coding.

1.19. Deep hierarchical navigation (R)

The King County Web site has a number of distinct site sections (agencies, elected officials, services) that require multi-level navigation to accommodate structured hierarchical information. The Proposer Shall explain how the system can accommodate for navigation that includes top-level navigation portals, linking to various sections of up to 100 sites, each with potentially 5 levels of navigation from the section homepage down to a content page deep within an agency web site. Also the Proposer Shall describe how a single site might contain multiple sites with their own unique navigation (of potentially 5 levels).

The Proposer Shall also explain the system's organizing scheme (channels, topics, subtopics, etc) and how the scheme can accommodate different agencies, with multiple subcategories of information.

1.20. Immediate previews (R)

Writers, editors, approvers, and publishers Shall be able to preview the draft content in any of the major browsers, as it will appear on the final site. These previews should be easy to access, and quick to display, for any authorized staff on any network-connected computer.

The net effect of all authoring features should be displayed, including:

- page layout and navigation
- hypertext links (which should be fully functional)
- related topics

1.21. Online help (R)

Online help Shall be provided, to support authors in their use of the WCMS. Ideally this information would be targeted specifically at tool users, including site administrators, developers, designers, authors, reviewers, editors, approvers, and publishers. Help information should also be accurate, easy to understand and easy to use.

Proposer should indicate how this online help is delivered and in what formats.

1.22. Multiple languages (SD)

Support for multiple languages shall be provided in the WCMS. This includes:

- editing support for multiple languages (this is best provided using Unicode)

- support for non-roman character sets, such as Chinese
- Ideally the system will provide support for the following languages of critical importance to King County (listed from highest to lowest priority):
    1. Spanish
    2. Chinese
    3. Vietnamese
    4. Tagalog
    5. Korean
    6. Japanese
    7. German
    8. Russian
    9. French
    10. Mon-Khmer
    11. Persian
    12. Laotian
    13. Hindi
    14. Arabic
    15. Italian

2. Content management

2.1. Version control (R)

Changes to content Shall be tracked. It Shall be possible to locate a previous version of content and restore it into the repository. The Proposer Shall indicate any limits to the number of versions that can be tracked.

In the case of rollback, it should be possible to replace the current production content with the recovered version. This allows mistakes to be easily reversed.

2.2. Compare versions (SD)

The WCMS should provide built-in tools for comparing production content with any proposed changes. The differences should be clearly and simply indicated, so that the tool user can identify the key changes at a glance.

This is particularly valuable as part of the workflow process, to allow a reviewer to see the proposed changes made in contrast to the production version.

2.3. Audit trails and activity logs (SD)

Comprehensive logs should be kept of all relevant actions performed within the WCMS. Of particular importance are the security audit trails, which track sensitive activities.

These activity logs should be generated automatically by the system, and protected against deletion. When necessary, log files should be 'rotated' to off-line storage, to prevent available disk space from being over-consumed.

There should also be a range of reports specifically designed to retrieve useful summaries from these logs and audit trails. It would also be useful for the WCMS to expose the logs for external access (such as via ODBC), to allow third-party reporting tools to be used.

2.4. Workflow (R)

The WCMS Shall provide simple and easy-to-use workflow with the following features:

- multiple status settings for content items, such as draft, in review, published, expired, etc.
- simple linear workflows with multiple steps. Proposer Shall indicate any limitations in the possible number of workflow steps.
- capture of comments entered by workflow participants
- Notifications of task assignments via e-mail or other communication channel.

It should also be possible to either escalate workflow steps automatically, or notify the relevant author or administrator of a delay in the workflow process.

At the very least the Workflow system should provide an author and an approver/publisher role, where the approver can send unapproved content back in the workflow for editing. Ideally the system would provide for a number of roles and situations including:

Content developer	Non-technical staff that develop verbal, visual, and audio content for display on the County Web site. After completing content, the content developer will submit the content to one of the below roles
Content editor	Non-technical staff who edit reviewed content. This role may edit and submit to one of the roles below, or may send it back to the developer for additions or changes.
Content reviewer	Non-technical staff who review content. This role does not change content, but may send it back to one of the above roles for changes (with comments or "highlights"), or may send it on for approval or publishing.
Content approver	Non-technical staff who give the green light for publishing or send content back for edits, additions or removal. Example: a manager approving a press release for public launch.
Content publisher	In some cases content might be approved, but will have technical or other dependencies for publishing. A publisher does not change the content but may be able to "release" content that has a green light from the publisher.

The Proposer shall indicate what features are included in the workflow system, and what roles (providing what capabilities) are available. If roles configurable based on a combination of factors, the Contractor shall list the factors.

2.5. Workflow administration (R)

The WCMS Shall provide an interface that allows the local administrators to create and modify workflow rules, without requiring either technical knowledge or Proposer assistance.

This includes:

- creating new workflows
- deleting of workflows
- updating roles or steps in existing workflows
- modifying conditional rules

2.6. Security (R)

As the primary Internet repository of County information and services, the WCMS Shall be adequately protected against unauthorized changes or other damage.

Adequate security levels and audit trails Shall be in place to protect the integrity of the content.

2.6.1. Tool-user security (R)

Appropriate security Shall be in place to manage tool-user access to the repository, including:

- support for multiple security and access levels
- applying security levels to specific users, roles and groups

- full audit trails of critical actions by users
- ability to restrict access to specific sections of the repository
- simple and efficient administration tools

2.6.2. Role-based management (SD)

While it is often desirable to manage security levels and access on a user-by-user basis, this can cause problems when staff leave, or county organization is restructured.

The WCMS should allow access rules to be associated with a 'role' (or position) as well as by user. This allows the role to be moved between tool users without requiring extensive updates within the WCMS.

2.6.3. System security (R)

The WCMS Shall be configured appropriately to ensure that data is protected from unauthorized external access. This includes addressing vulnerabilities within both the software and underlying operating system.

2.6.4. Security validation (R)

Information validating a high degree of WCMS security Shall be provided. This could include:

- Third-party security audit results
- Security ratings from reputable third-party experts
- Other material the confirming industry-standard security practices and technologies.

2.7. SSL Encryption (SD)

King County uses SSL encryption for applications that may display or collect private information. Therefore, it is desirable for the WCMS to be able to accommodate SSL.

2.8. Virus scanning of uploads (SD)

All files uploaded into the WCMS (whether into a document repository or elsewhere) should be virus-scanned, to ensure that neither site integrity nor user experience is compromised.

2.9. Integration (SD)

The County is increasingly moving towards a highly integrated information-management environment. To achieve this, the WCMS should be integrated cleanly with a range of existing applications and systems. The Proposer should describe how the system meets the following desired features:

- Open API providing access to WCMS methods and properties
- Open and web-documented communication and storage formats
- XML reading and writing support
- General customizability using .Net based development environments

2.10. Reporting (SD)

The WCMS should provide an extensive range of reports, for both tool users and site administrators. The Proposer should describe reporting capabilities, especially in areas such as:

- Aged content reporting
- Usage reports
- Content auditing
- Customized reports
- Export of report data

2.11. Proactive notification (SD)

System errors, important system events, and problems (including broken links) should be brought to the attention of relevant administrators or tool users via e-mail, as appropriate. This helps to ensure that the problems are acted upon in a timely fashion. Please describe what proactive notification features the system provides.

2.12. Syndication of content to 3rd parties (R)

The WCMS should have mechanisms to provide content to 3rd parties on a regular basis. This would be delivered in a standard format (such as XML), to allow easy use by these external organizations.

Proposer shall indicate any syndication support provided with the system, or if there is no native support, how the system might accommodate customized or third-party solution.

2.13. Aggregation of content from 3rd parties (SD)

It should be possible to 'stream' external media sources into the WCMS repository. To facilitate this, it would be valuable for the WCMS to provide 'out of the box' support for major syndication formats (such as RSS). The Proposer should indicate support for aggregation of content from 3rd parties.

2.14. Automated release and expiration of topics (R)

It shall be possible to specify a release and expiration date and time for each topic in the repository. When the release date/time occurs, the WCMS should publish the topic to the relevant destinations. At the moment of expiration, the content and internal links to it shall be automatically removed from the site.

This ensures the systematic release of information onto Internet, and guarantees that outdated information is not left on the site.

2.15. Automated archiving of content (SD)

When content is expired, it should be moved to archive status, and perhaps be physically moved from the repository to an archive area. When required, this content should be further moved to a backup device, to conserve hard disk space and to improve system performance.

It should be possible to establish rules for the handling of topic archival, and have the WCMS automatically manage the process. User intervention should not be required at any stage of the process.

It should be relatively easy for tool users to find and republish archived content.

2.16. E-mail notifications (R)

There shall be a facility to send notifications, warnings and error messages via corporate e-mail to specified users. Supported e-mail protocols should include:

- SMTP
- Microsoft Exchange server

2.17. Integration with Active Directory (SD)

An enterprise-wide corporate directory has been established using Microsoft's Active Directory platform, to further the goal of a 'single sign-on' across all systems. This is used as the basis for network logins, as well as storing user details (such as name, location, phone number, etc).

The WCMS should use this service as the basis for user authentication and security levels. All security information should be stored within the corporate directory, with the WCMS reading or writing to this as necessary.

If required, additional details can be added to the directory to support the needs of the WCMS. The Proposer should specify required changes.

2.18. Deployment onto existing database (SD)

The County's Web Team has standardized on and supports Microsoft SQL Server.

Ideally, if it uses a database, the WCMS should be configured to use this database platform to store information.

Information should be provided by the Proposer to indicate how this integration may be achieved, including details such as:

- level of support for the database (e.g. whether the full functionality of the database is utilized)
- version of the database required
- specific database features (or additional modules) required to support the document repository
- expected size of the document repository for a government of our size
- expected impact on the server load and capacity for a government of our size and vicinity

2.19. Microsoft and open standards (SD)

Wherever possible, the WCMS should use Microsoft technology or open, non-proprietary standards. The use of such standards assists in the integration of the WCMS with current King County platforms, and reduces the amount of proprietary knowledge required by systems administrators.

Suitable areas for the use of Microsoft or open standards includes:

- data storage (databases, file storage, etc)
- underlying operating systems
- taxonomies and topic maps
- communications protocols
- import and export formats

2.20. Export of data (R)

In order to 'future-proof' the WCMS, it should be possible to export the entire data of the repository to an industry-standard format for import into yet another content-management product. Ideally, this would include:

- content of all topics
- links (hypertext links, related topics, etc)
- metadata
- global taxonomies or topic maps
- structural information (including topic hierarchy)
- User accounts, including usernames and access privileges

Sufficient information should be provided to allow simple migration of the content into another WCMS, or equivalent system.

The Proposer should provide details on the export format, and show how this can be used to meet the business need outlined.

2.21. Document upload and linking (R)

There is a wide range of documents and files to which the published sites link. These include PDFs, Office files and other documents, multimedia files (Flash movies), large graphics, etc.

To support this requirement, the WCMS shall provide a some form of repository, into which files can be uploaded.

Ideally this would include:

- classifying (or otherwise grouping) the files within the repository, making it easier for authors to find and manage the documents
- capturing metadata when documents are added
- searching and browsing tools for documents within the repository
- versioning and workflow of items within the repository
- optionally restrict authors to only use documents stored within the repository
- limit the size of uploaded documents (no larger than a specified value)

The WCMS should allow specified users to be given the rights to upload additional images into specific pages or into the repository. Other users should be restricted to just selecting an existing image out of the repository when authoring pages.

2.22. Image repository (R)

The WCMS shall provide the ability to store and manage the large number of images used throughout the site (including those in the standard page templates). Please describe how images are stored and managed.

2.23. Image editing (SD)

The WCMS should provide additional image editing ability such as:

- automatic generation of 'thumbnails', to allow images to be previewed before inserting
- ability to resize or crop images (optional)

2.24. Additional information management features (SD)

In additional to standard content management features please describe additional features that are incorporated in the system including:

- Digital Asset Management
- Document management capabilities
- Digital rights management
- Portal features
- Records management
- Integration with records management software
- Additional modules

If any of these features are available at extra cost or effort, please list those details.

3. Publishing

3.1. Powerful publishing engine (R)

The WCMS shall incorporate a powerful and flexible publishing engine, in order to meet the full needs of the organization. It is expected that a range of advanced features will be required to manage the publication of the current sites.

Furthermore, a program of ongoing enhancements are planned, and the WCMS should have the capabilities to support these.

The Proposer shall provide a realistic overview of the publishing engine, including:

- underlying design of the engine
- key languages used to implement publishing features (XSLT, XML, ASP.NET, etc)
- formats supported
- key features
- strengths and weaknesses

- known limitations (as relevant to business needs)

3.2. Publishing model (R)

The Proposer shall outline the publishing model used by the WCMS, whether 'static' or 'dynamic' publishing, or a hybrid of the two.

Contractors shall also specify:

- how the publishing process operates
- what tool-user actions are required to initiate the process
- what software should be installed onto the production web server
- what process and configuration is recommended for development, staging and publishing
- how rapidly changes can be published to the site
- whether individual pages can be published to the site without requiring a full site rebuild
- whether content can be published on demand
- whether it can be scheduled, and if so, with what regular frequency -- daily? hourly?

The Proposer shall also provide sufficient technical details for an evaluation of suitability to be made by the group responsible for maintaining the IT infrastructure.

3.3. Stylesheets (R)

The style of elements within a page shall be controlled through the use of stylesheets. This includes the text, tables, links and images.

To meet this goal, the authoring environment should enforce style-based editing, and prevent the use of custom formatting. The desired appearance is then applied during publishing via the stylesheets.

3.3.1. Local formatting (R)

It shall be possible to specify different stylesheets for particular sections of the Web site. This allows a customized appearance to be obtained, matching the particular requirements of the information being published.

3.4. Page templates or equivalent technology (R)

The overall page layout of published pages shall be specified via a system of templates or other technology capable of storing layout rules. This allows the overall appearance of the site to be revised without having to change either content or code.

The Proposer shall provide details on how these templates are created and maintained within the WCMS. If this requires HTML (or other code) editing experience and tools, this should also be indicated.

Ideally, a non-technical interface is provided for template creation and configuration. It should also be possible to easily preview how these templates will appear on the final site.

Finally, it should also be possible to apply different templates to specific pages of the site. This allows the templates to be customized to the specific information being presented on the pages.

3.5. Extensibility (SD)

There will be an ongoing requirement to continually improve the appearance and functionality of the published pages. The WCMS should support this process.

To meet this need, it should be simple to integrate code snippets (or equivalent) to provide additional publishing functionality. In this way, specific additional functionality can be added without having to change or update the underlying publishing engine.

The Proposer should document the process for enhancing the published pages in this way. This includes:

- programming languages supported

- skills required to develop new code
- level of integration between the publishing engine and information in the repository
- complexity of programming the additional functionality
- limitations of this approach
- documentation provided

3.6. Support for multiple sites (SD)

A number of separate Web sites are currently published by the County. The Proposer should indicate how the WCMS meets this need. Including any additional costs (per domain, CPU, etc.)

Specific features required include:

- point-and-click interface within the WCMS for creating and configuring new sites
- different domain name and URL for each site
- different page layout and formatting to each site
- option for different metadata schemas for each site

3.7. Content viewable on hand-held or mobile formats (R)

There is a growing market for the delivery of content to a variety of mobile devices (including Palm and WIndowsCE devices, WAP-enabled phones, etc.).

The WCMS shall be able to format content that can be viewed on these devices given the inherent limitations of these systems.

The Proposer should provide examples of how the WCMS can deliver usable content to these types of devices.

3.8. Publishing XML (SD)

The eXtensible Markup Language (XML) is the industry-standard mechanism for communicating between disparate systems and businesses.

The WCMS should therefore be able to publish content into this format. Ideally, the output can be made to conform to any required DTD or schema.

3.9. Automated printable version of pages (R)

The publishing system shall be capable of automatically creating a printable version of any page on the site. An icon should then be listed on each page suitable for printing (as determined by a template), making it easy for site visitors to access a ‘printer-ready’ view of information.

3.10. Load balancing (R)

In order to ensure that access times are sufficiently low, it may be necessary to use a load-balanced server environment.

The Proposer shall provide a concrete proposal for establishing load-balancing, including details on cost and required configuration.

It is not a requirement to implement a load balanced solution initially, unless it is determined that this load balancing is required to accommodate current site usage.

3.11. Availability (R)

The publishing system (and associated components) shall be designed to support 24x7 availability of the corporate Web site.

The Proposer should outline a configuration that will meet this goal, and specify any exceptions (such as routine database administration).

3.12. Integrating web-based applications (SD)

The County Web site includes a range of custom-developed web applications (for example, our Employee/Services/Organization Directory, at http://directory.metrokc.gov). These have been designed to meet specific needs within the organization. Currently King County has applications written in ASP, ASP.NET and Cold Fusion.

It should be possible to seamlessly integrate applications with the content published by the WCMS. This includes applying standard page layout and templates to the web applications.

The Proposer should describe how this requirement can be met, including any limitations, using built-in WCMS capabilities.

3.13. Support for existing web platform (SD)

The County's central Web support group works with a well-established web server platform—Windows 2003/IIS6/.Net Framework 1.1 as of this writing. This is used to host the current Internet Web site.

A considerable investment has been made into this environment, including licenses, application software and staff training.

For this reason, it is desirable that the WCMS be able to be hosted on and publish to this platform. The Proposer should outline how this may be achieved, and any issues that may arise, such as:

- which versions of the web server are supported
- whether the full functionality can be provided
- any performance issues
- required resources (speed and size of server, etc)

4. Presentation

4.1. Usability (R)

All published content shall meet high standards of usability. This includes aspects such as ease of use, learnability and efficiency.

The complete functionality of the Web site should provide a high level of usability in areas such as:

- overall page design
- site architecture
- navigation
- searching
- application design
- use of multimedia
- feedback mechanisms
- readability of content

4.2. Accessibility (R)

Published pages shall be designed to allow access by users with a wide range of disabilities, such as full or partial blindness, color blindness, and so forth.

Relevant standards shall be adhered to, such as the W3C Web Accessibility Initiative (WAI).

The Proposer should indicate what level of accessibility (A, AA, AAA) can be met, and should provide reference sites where this has been achieved.

The Proposer shall also indicate what features are provided to enforce accessible content publishing (such as enforced “ALT” tags).

4.3. Cross browser support (R)

Publicly accessed pages shall be viewable and appear normal in all major web browsers, including the most popular versions of AOL, Internet Explorer, Safari, and Mozilla (Firefox). By limiting the use of browser-specific features, the widest possible audience can be assured. Page content should also be readable using a screen reader, such as Lynx.

4.4. Limited client-side functionality for published pages (R)

Publicly accessed web pages will be viewed using a wide range of browsers, including those used by disabled users. To ensure the widest compatibility and accessibility across browsers, client-side scripting technologies shall either not be used at all or used sparingly with a graceful degradation. These include:

- JavaScript
- VBScript
- Flash
- other plug-ins

If these technologies cannot be avoided altogether, the Proposer shall specify where they are used, and the functionality they provide.

4.5. Valid HTML and CSS (R)

All publicly accessed pages shall conform to the current HTML and CSS specifications (XHTML 1.0 and CSS 1 as of this writing). This ensures maximum compatibility across browsers and platforms.

Ideally administration tools should include a facility for validating published pages against the HTML and CSS specifications, and identifying any issues.

4.6. Effective navigation (R)

The King County Web site currently provides the following navigation aids for users:

- A-Z index of services
- Portal pages
- 'Quick links' on the home page

The WCMS support a range of navigation aids to assist users in finding information. The WCMS shall provide considerable flexibility in developing and implementing navigation aids without extensive additional development.

The Proposer shall indicate what navigation options are provided 'built-in' to the WCMS, and how other navigation options can be provided (giving examples and costs where appropriate).

4.7. Human-readable ("friendly") URLs (SD)

The WCMS should publish 'human-readable' URLs for all pages on the Web site.

(For example: www.site.com/about/locations/in addition to or instead of www.site.com/cgi-bin/WCMS.asp?pageID=3949329.)

Also, Authors should be able to create friendly URL paths for advertising purposes, choosing pathnames corresponding to branding requirements (for example, www.metrokc.gov/fair, which would lead to the fair pages at www.metrokc.gov/parks/fair/index.htm).

4.8. Redirection of deleted or moved pages (SD)

Where required, the WCMS should automatically redirect page requests to deleted or moved pages to the correct location.

This should be managed automatically by the WCMS, without requiring additional administrative work.

5. Documentation & Administration

5.1. Self-sufficiency (R)

Overall, the WCMS should install 'out of the box,' without a need for the core product code itself to be modified. Instead, the 'hooks' provided by the WCMS for expansion, templating and customization will be used.

There is a desire to be able to customize the WCMS in-house. Currently County application developers are skilled in Visual Basic, ASP.NET, XHTML, CSS and SQL. Web infrastructure staff are skilled in maintaining Microsoft-based systems, including Windows Server 2003, Active Directory, IIS 6, and SQL. The system shall not require significant additional skills beyond current technical capabilities to be able maintain and extend the system. The Proposer shall indicate what skills and knowledge would be required by internal staff to customize, extend, maintain and administer the product.

If there are any activities that require the Proposer or other outside organization to maintain or administer the system, the Proposer shall specify.

5.2. Contingency and redundancy (R)

As the WCMS is the primary source of content for the County Web site, it is a mission-critical system. As such, steps should be taken to ensure that availability is guaranteed over the lifetime of the system.

The Proposer shall therefore propose a contingency plan to meet these goals. It is expected that this will involve redundancy (duplication) of key components, such as:

- content repository
- publishing engine
- Web server

- internet connection
- internal network access

The Proposer may outline alternative ways of meeting the availability requirements, such as 'fall-back' options which provide manual mechanisms for working around failed components.

5.3. Backup and disaster recovery (R)

The Proposer is to describe a backup and disaster recovery strategy that will ensure the safe-keeping of the information stored within the information repository.

5.4. Training (R)

The Proposer shall list the training materials that exist for the WCMS, and the training services they can provide.

This includes:

- training materials for tool users, including recommendations regarding tool-user vs. train-the-trainer approaches to training.
- Proposer resources available for conducting training sessions using these materials
- qualifications and experience of relevant training staff within the Contractor's organization

All training material shall be up-to-date, high quality, and easy to use.

5.5. Documentation (R)

Documentation shall be provided for all tool user roles.

Documentation shall have sufficient information to allow the WCMS to be managed entirely by internal staff.

It is also important that the documentation be of high quality, accurate, and simple to use. The Proposer shall indicate any areas not completely addressed by the documentation.

5.6. Warranty (R)

Proposer shall specify the warranty period provided, once the software has been purchased. This shall specify what is covered by the agreement, and areas specifically excluded from it.

5.7. Maintenance (R)

The Proposer shall describe their preferred support arrangements. This may be split into two phases:

- initial development and deployment
- ongoing production support

5.8. Service-level agreements (SD)

The Proposer is to specify the service-level agreements (SLAs) it can offer regarding ongoing maintenance and support of the WCMS. Aspects to be addressed include:

- grading of issues into different levels (such as cosmetic, minor, major and critical)
- response times and resources applied to each issue level
- process for identifying and resolving WCMS bugs and errors
- penalties for failing to meet SLA response times

5.9. Software upgrades (R)

The Proposer shall describe the provisions for obtaining software upgrades. This includes any automatic upgrades during the deployment or maintenance periods.

Beyond this, the Proposer shall specify the expected frequency of upgrades, and associated costs. An outline should also be provided of the process for migrating to these new versions, including appropriate regression testing.

5.10. Scalability (R)

Currently the King County Web site contains approximately 80,000 static HTML pages, and 40,000 PDF files. The site has grown at an average rate of 20,000 content files (PDF & html) per year over the past five years. In addition, the King County Web site receives over six million page views per month, with spikes reaching tens of thousands of concurrent users during important events (earthquakes, elections, and other breaking news).

Site activity and content have grown steadily, and we estimate a system performance should accommodate up to three times the amount of content (350,000 content pages), and twice the activity (1.5 million page views per month).

The Proposer shall describe the performance delivered by the recommended hardware and software, based on estimates of content and usage.

Furthermore, the Proposer should outline how increased usage will impact these figures, and the additional resources (both hardware and software) that will be required to compensate for this.

This information should allow us to conduct long-term planning for the growth of the WCMS, and budget accordingly. Any limitations regarding the scalability shall be outlined clearly. Including number of sites, page views per given time period, publishing throughput, etc.

5.11. Secure publishing environment (R)

The County's current publishing environment uses FTP (not secure FTP) for publishing to the public servers, and UNC access on internal testing and staging servers. Please describe recommended access methods for publishing and administering the WCMS system for development, testing and publishing environments. The Proposer shall include all recommended alternatives, indicating the strengths and weaknesses in regard to ease of use, management and security.

5.12. Replication (SD)

We are currently concluding a project that would replicate Web-based information to a Web host at a distant geographic location. This is a business continuity requirement. At the very least we would replicate mission critical information; at the most we replicate all content and critical applications.

Options might include:

1. replication of updated mission-critical WCMS data as HTML files and automatic upload of the files to the geographically distant host;
2. regularly scheduled replication of updated mission-critical or all WCMS data into a duplicate WCMS system at the geographically distant host.
3. other...(?)

The Proposer should describe what options WCMS can provide to meet this need, and how (including pricing, and third-party software requirements). If not, the Proposer should then explain how best the County can achieve the goal of replicating mission-critical content to a geographically distant location in conjunction with the proposed WCMS.

5.13. Privacy (R)

The WCMS shall conform to the requirements of any privacy legislation in force. This may include aspects such as:

- preventing inappropriate access to customer records (by both internal and external parties)
- adequate protection of customer data
- provision for providing all customer records on request
- Adherence to County privacy documents (http://www.metrokc.gov/terms.htm#privacy)

The Proposer should document how privacy rules are enforced within the WCMS.

5.14. Knowledge transfer and development partnership (SD)

The development of the initial implementations will require content migration, template development, and customization among other tasks. It is likely that we will be working with a Proposer to guide this process. King County developers will likely take part in the actual development, in order to learn and apply best practices that are passed on by experienced experts. Please indicate whether the Proposer would be able to accommodate this arrangement, and in what capacity.

6. Management Requirements

6.1. References (R)

The Proposer shall provide references including contact information of clients that have had similar projects, and who can indicate the competency and quality of the Contractor's work. In addition, the Proposer shall provide a number of reference sites in which the proposed WCMS solution is being used in production, in an environment similar to the County's. These sites shall :

- demonstrate how the software may be applied in a real situation
- match our requirements closely enough that direct comparisons can be made
- be successful implementations, with any issues highlighted
- be described in an accurate and realistic way (promotional or sales brochures are not appropriate)
- provide us with confidence that the WCMS will meet our specific needs

Ideally, several of these sites will be large local governments.

The Proposer shall provide four (4) recent references of projects of similar size and quantity performed by the Contractor. For these recent projects, the Work should have been completed within the last two (2) years.

Provide the following information for each project:

- Owner:
- Location:
- Contact Name, phone number, e-mail address:
- Date of Installation:
- Number, type & version of the WCMS
- Number of on-site personnel trained
- Project manager
- General description of the services and outcomes provided
- Names of any subcontractors that are also proposed to perform work under this RFP

Proposer shall answer the following:

- How many WCMS clients do you currently support?
- What percent of your business comes from your top three clients?
- How many individual contracts do you currently have?
- How many years have you been in business doing WCMS related work?

6.2. Proposer staff and resources (R)

The Proposer shall clearly indicate the staff and resources that can be brought to bear on the project. This shall be a realistic estimate, based on the actual staff and resources that the Proposer has available at the present time.

Project implementation will take place at King County offices. The County desires that all development take place on site, but recognizes that this may not be feasible in all cases. The Proposer shall indicate what activities will take place and what staff will be available onsite during the project.

If the Proposer plans to subcontract work to other businesses or Contractors, this shall also be specified.

For each key staff person with the Contractor's organization, provide a brief resume, outlining skills and experience, and whether they will be available to work onsite. Note that these staff shall be free to actually work on this project, and not just be indicative of the overall characteristics of the Contractor's staff. Individuals who are identified should not be replaced midstream. Any resource replacement for the project shall be mutually agreed upon.

6.3. Change management (SD)

The Proposer shall indicate their recommended approach to the change management requirements of the project. While the Proposer may propose a range of initiatives to address this issue, the following shall be covered:

- Involving representatives of tool users throughout the project
- ensuring both business and tool-user needs are met
- clearly communicating the goals and status of the project to all stakeholders (including tool users)

The change management activities are an effective way of reducing tool-user resistance to change, and they help to ensure project success. The Proposer should therefore demonstrate its commitment to these principles.

6.4. Project management (R)

The Proposer shall specify its preferred project-management methodology for the project. A high-level project plan shall also be provided, showing:

- proposed activities, such as: workshops, project planning, prototyping, development, testing, deployment (this list is not comprehensive)
- suggested timing for these activities
- rough estimates for the resources (people and time) needed to complete these tasks

While a full project plan will be developed with the successful Proposer, this requirement is intended to identify the level of professionalism and maturity the Proposer can offer in the area of project management.

6.5. Proposer information (R)

- Provide the name, address, and telephone number of legal entity with which Contract is to be written.
- Provide the name, address and telephone numbers of principal officers (President, Vice-President, Treasurer, Chairperson of the Board of Directors, and other executive officers.)
- Describe the legal status of the Contractor.
- Provide the Contractor's business license numbers for states other than Washington.
- List the names, titles, and telephone numbers of persons authorized to conduct contract negotiations with the County.
- Evidence of adequate financial stability is a prerequisite to award of a Contract regardless of any other consideration. The Proposer shall submit financial resources information according to PART A, Section 2-3 Responsiveness and Responsibility.
- Provide the following financial details about your organization:
    1. Audited financial statement for the last three years and any related management letters
    2. Details about the bank you work with
    3. Details about your lines of credit. How much is currently available?
    4. Certificate of liability insurance. What is the amount? Are you covered for errors and omissions?

5. Details about all claims and judgments in the past three years. What were the natures of these? Are there any cases pending?
6. Three credit references, including the name of the institution and the name and phone number of contacts for each institution.
7. Are your employees bonded? What is the extent of the bonds?

7. Pricing & Resources

7.1. IT resources required

The Proposer shall specify the IT resources required to establish and deploy the WCMS on the County's Web site. These should be determined by evaluating the business requirements and scope outlined in this document, and it is required that the estimates provided match these specific needs.

Hardware

Current production hardware (Public Web servers).	Two 3.2 MHz load balanced p4 dual proc servers (DL380) hosting web sites. One SQL server: 1. Windows 2003 SP1 2. IIS 6 3. SQL 2000 (+latest service pack) 4. Build for the .NET Framework version 1.1

The Proposer shall list the hardware requirements for the WCMS servers. This shall specify details such as:

- number of servers
- server architecture
- processor speed
- memory
- hard disk space

The Proposer shall indicate what usage level this configuration will support, and how this will need to grow as usage increases.

Software

The software required for the WCMS, both on servers and workstations. The section titled 'Third-party software required' should also be completed.

Network

The LAN speed required to support the full functionality of the WCMS. The network speed necessary for external (VPN) access should also be specified.

7.2. Third-party software required

The Proposer shall specify what third-party software is used to provide the complete WCMS functionality. This includes packages that are used internally within the WCMS, and extra add-on modules.

It is important that the Proposer specify exactly which third-party software packages will be needed, based on specific requirements. Sufficient information shall be provided to allow us to assess the overall cost of the total WCMS solution. Indicate the features, work required, manufacturer and other relevant details. Costs for third party software shall be indicated under 7.4 Pricing Information, Part Two.

7.3. Skills required

It is planned that the initial deployment of the WCMS will be done with the assistance of the Contractor. Ongoing maintenance and development of the system, however, will be managed exclusively by internal staff.

The Proposer shall detail the skills and knowledge required by internal staff to perform ongoing management of the WCMS.

This should include:

- number of staff full-time required, grouped by role or function
- knowledge and skill levels required for each role
- training required to meet this skill level

Sufficient detail shall be provided to allow the business to make an accurate estimate of the overall cost of running the WCMS. This is on the recognition that the staff costs are likely to exceed the software or licensing fees in the medium- to long-term.

7.4. Pricing information

The Proposer(s) shall provide a detailed breakdown of the total price associated with deploying the WCMS for the following categories:

1. Services
2. Software and Materials
3. License Price
4. Additional pricing, if applicable

5.

Estimate: King County estimates that the entire combined cost (for all three categories above) ranges from $100,000.00 to $150,000.00.

The Proposer shall fill out the table located at the end of Exhibit B, which contains the following information:

PART ONE

Services					
See section "4-7 Work Description" for milestones and deliverables					
Section	**Deliverable**	**Duration**	**Estimated Hours**	**Hourly Rate**	**Extended Total**
4-7 A.	Milestone I: WCMS Initial Pilot (The initial pilot will be no more that 5% of the total cost)		_____	$_____	$_____
4-7 B.	Milestone II: Top level pages		_____	$_____	$_____
4-7 C.	Milestone III: Agency site development		_____	$_____	$_____
4-7 D.	Milestone IV: System setup & configuration		_____	$_____	$_____
4-7 E.	Milestone: V: System testing		_____	$_____	$_____
4-7 F.	Milestone: VI: Production deployment		_____	$_____	$_____
4-7 G.	Milestone: VII: System documentation		_____	$_____	$_____
4-7 H.	Milestone: VIII: Training		_____	$_____	$_____
	If applicable, the proposer shall provide hourly rates for each role (e.g. project manager, developer, etc) within a milestone.				

PART TWO

Given the recommended configuration of hardware and users based on King County needs, proposer(s) shall list the unit price for all licenses. Include any alternative pricing models available.

Software & Materials				
	Description	**Quantity**	**Unit Price**	**Extended Total**
	WCMS Software	_____	$_____	$_____
	Database Software	_____	$_____	$_____
	Operating Systems	_____	$_____	$_____
	Required Third Party Software (additional software needed to fulfil requirements)	_____	$_____	$_____
	Additional Software & Materials (please specify)	_____	$_____	$_____
	If applicable, describe the price breakdown/model for each line item proposed, and estimated quantity required.			

PART THREE

The system shall scale to accommodate (view section 4.6 for initial implementation requirements):

- 350,000 content pages
- 1.5 million page views per month
- 500 potential tool users (content submitters, reviewers, administrators).
- Average public user concurrency between 250 to 500 with spikes up to 1,500
- Load-balanced production environment

License Price				
	Description	**Quantity**	**Unit Price**	**Extended Price**
	Using the Contractor's recommended license model and County's requirements please indicate the full licensing costs for implementing the system. In addition please describe below the licensing models conditions and limitations.			
	Please indicate in the space below any alternative licensing models (per seat, per CPU, per concurrent user) with a breakdown of costs based on a range of quantities and unit prices. This is needed to plan ahead, as the County may need to purchase additional licenses as the system is scaled out.			

PART FOUR

Additional Costs				
Indicate any additional costs required to implement the WCMS system according to the requirements and scope described in the RFP.				
	Description	**Quantity**	**Unit Price**	**Extended Price**
			$_____	$_____
			$_____	$_____
			$_____	$_____
			$_____	$_____

GRAND TOTAL PRICE FOR THE ABOVE PARTS 1 - 4:	$_____

Terms and Definitions	
Term	**Definition**
Administrator	A generic term not used in the County's requirements document. Instead, we use "site administrator" (who manages a site or sites), "system administrator" (who manages the WCMS), and "system engineer" (who manages the hardware and OS where the WCMS resides). Detailed definitions appear below.
Approval	The signing-off of changes as part of a ‘workflow’ process.
Asset	Generic term for a single unit of information that is stored within the WCMS. This could include pages, documents, images, metadata records, user details, etc.
Asset-based WCMS	General description of a WCMS that maintains content independent of the site structure, and then provides mechanisms for ‘assembling’ the content to form the published site. In practice, there are many different mechanisms for implementing this concept. See ‘page-based WCMS’ for an alternative model.
Author	A person who authors text and submits to the WCMS.
‘Baked’ publishing	See ‘static publishing’.
Batch publishing	See ‘static publishing’.
Blog	See ‘weblog’.
Brand management system	Brand management systems are specific applications of the more general DAM category of products to the management of advertising and promotional materials.
WCMS	See ‘WCMS’.
Collaborative environments	Collaborative environments (also known as ‘workplaces’ or similar) provide tools for sharing information and documents between a small group of individuals, often involved in a specific project or team. Collaborative tools complement the traditional content management publishing models, as they provide a ‘peer-to-peer’ information sharing mechanism.
WCMS (content management system)	A WCMS (content management system) supports the creation, management, distribution, publishing, discovery, and archiving of corporate information. Also known as a ‘Web content management system’ (WCMS) Web site.
Content approver	Non-technical staff who approve edited content prior to key milestones, such as production. For example, a manager approving a press release for public launch.
Content developer	Non-technical staff that develop verbal, visual, and audio content for display on the County Web site.
Content editor	Non-technical staff who edit reviewed verbal, visual, and audio content for display on the County Web site.
Content publisher	Non-technical staff who publishes approved verbal, visual, and audio content for display on the County Web site.
Content reviewer	Non-technical staff who review developed and edited verbal, visual, and audio content for display on the County Web site, and provide editorial changes to

Term	Definition
	content editors.
Content repository	Central database (or other technology) that holds the documents, pages and other content that is managed by the WCMS.
Content reuse	Use of a single piece of information in a number of different contexts. This may involve publishing a whole topic to both the intranet and Web site, or reusing a single paragraph on two different pages. The key concept is that the information is only stored once, and that changing that source seamlessly updates all locations where it is used.
Contingency	Plans that document how various problems with the WCMS (or surrounding environment) will be responded to. Typically, these outline recovery mechanisms, or alternative business methods. (See 'Disaster recovery plan')
Corporate Web site	Site on the internet that is accessed by the customers of the business.
CRM	See 'customer relationship management'.
Customer relationship management	Customer relationship management (CRM) systems manage information about customers and their transactions, and they are used to improve customer service and/ or sales.
DAM	See 'digital asset management'.
Digital asset management	Digital asset management (DAM) systems support the storage, retrieval and reuse of digital objects within an organization. DAM differs from document management and content management in its focus on multimedia resources, such as images, video and audio. DAM also typically provides rights management capabilities.
Digital imaging system	Digital imaging systems automate the creation of electronic versions of paper documents (such as PDFs or TIFFs) and are used as an input to records management systems. By creating electronic resources, they can be manipulated directly by the records system, eliminating the need for physical filing.
Disaster recovery plan	Documented mechanism for recovering data lost due to hardware, software or other WCMS failure.
DMS	See 'Document management system'.
Document management System	Document management systems are designed to assist organizations to manage the creation and flow of documents through the provision of a centralized repository, and workflow that encapsulates business rules and metadata. The focus of a DMS is primarily on the storage and retrieval of self-contained electronic resources, in their native (original) format.
Dublin Core Metadata	Standard set of metadata elements for describing a wide range of documents. It is used as the basis for HTML 'metatags', as well as classification schemes such as Washington States. Dublin Core Metadata has been successful due to its balance of simplicity and expressiveness. More information can be found at: http://purl.oclc.org/dc/
Dynamic publishing	Publishing model where web pages are generated dynamically at the point when they are accessed by site visitors. The WCMS typically assembles the pages directly out of the content stored in the central repository.

Term	Definition
	The alternative model is ‘static publishing’.
EWCMS	See ‘enterprise WCMS’.
E-commerce	General term for any online transaction or payment that occurs via the internet.
E-mail recipients	Non-technical staff who receive comments, questions, and other feedback from site visitors. The comments are sent to recipient's e-mail boxes via an online form.
Enterprise WCMS	An enterprise WCMS consists of a core web WCMS, with additional capabilities to manage a broader range of organizational information. This often consists of document management, records management, digital asset management or collaboration features.
Extranet	Extension of the intranet to encompass users outside of the corporate LAN. This includes external staff, partners, affiliates and customers.
‘Fried’ publishing	See ‘dynamic publishing’.
Geographic information system	Geographic information systems (GIS) are special purpose, computer-based systems for the capture, storage, retrieval, analysis and display of spatial (location-referenced) data.
GIS	See ‘geographic information system’.
HTML	Hypertext Markup Language (HTML) is used to create web pages on the internet.
Information architecture	Information architecture (IA) consists of process and techniques for determining the structure of the content, including navigation and linking requirements. IA also encompasses metadata and search engine design.
Information management	The umbrella discipline that encompasses content management, document management, record management, amongst other areas.
Information repository	See ‘content repository’.
Interface design	Process of determining the user interface for computer systems (including Web sites). This takes into account the features of the system, user requirements, and usability.
Intranet	Web-based environment providing information, tools and resources to internal company staff.
Knowledge management	Process of identifying, creating, enhancing and managing knowledge within an organization, to support staff and meet business goals.
LAN	Local area network (LAN) is the main network that connects servers and office desktop machines.
LWCMS	See ‘learning WCMS’.
Learning WCMS	Learning WCMSs combine the capabilities of a WCMS (WCMS) with that of a learning management system (LMS). This allows them to manage both the content of the training materials, and the administration of the course itself.
Learning management system	Learning management systems automate the administration of training and other learning. This includes registering students, managing training resources, recording results, and general course administration. Learning management systems are designed to meet the entire needs of professional trainers and other educators.

Term	Definition
Library management system	Library management systems provide a complete solution for the administration of all a library's technical functions and services to the public. This ranges from tracking the assets held by the library, managing lending, through to supporting the daily administrative activities of the library.
LMS	See 'library management system' or 'Learning management system'.
Metadata	Information about a page, document, image or other asset. This could include details such as author, creation date, title, and keywords. Metadata is used when searching or classifying documents.
Page-based WCMS	General description for a WCMS in which there is a one-to-one relationship between the structure of the content within the central repository, and the structure of the published site. See 'asset-based WCMS' for an alternative model.
PDF	Adobe's Portable Document Format (PDF) is a platform-neutral way of delivering a document that guarantees that the layout and appearance remains unchanged when displayed or printed.
Personalization	Mechanism whereby the content is tailored to the specific needs of each user. This is driven by a profile of the user's interests and other relevant details. Personalization is most often used on 'portal' sites that aggregate many different information sources into a single interface.
Portal	General term referring to a related set of technologies that are used to provide a single view of a range of disparate information sources. These are primarily used to provide corporate information to internal staff, although they can deliver customer-facing information.
Portlet	Single information element that can be combined with others in a portal to make up a page. For example, one portlet might display stock prices, while another gives access to the e-mail system.
Redundancy	Duplication of key system components to protect against failure. In the event that one component fails, the other is seamlessly switched to. This can also be used to provide 'load sharing' between redundant systems, which can offer increased performance.
Replication	Duplication of WCMS systems, typically used when the business has geographically-separated offices. The information within each local WCMS is then 'synchronized' with the other databases.
Repository	See 'content repository'.
Revision control	Another commonly-used phrase for 'version control' (see that entry for more information).
RMS	See 'records management system'.
RSS	Variously known as 'really simple syndication', 'rich site summary' or 'RDF site summary', RSS is the most common mechanism for syndicating content. This is widely used as a feature of 'weblogs'.
Single-source publishing	Closely related to 'content reuse' defined earlier. This involves taking a single repository, and publishing it to multiple formats (such as HTML, paper, WAP, etc). The key concept is that the one set of topics is used as the source, with all

Term	Definition
	formatting and layout applied during publishing.
Site administrators	Staff who maintain a site's configuration via the WCMS; this may include site look and feel; user-account maintenance; workflow; etc. Ideally, this is not a technical person, and he/she could perform these functions without having to know markup or software code.
System administrators	Staff the administer system wide settings. Or settings that apply to all sites and users. This may also include technical configurations like e-mail servers, and database connections.
Site users	People who visit and use the King County's Internet Web site. (See "tool users," below).
Software developer	A programmer or someone who develops technical components. This is different than a web designer/developer, who works in HTML, CSS, and with images and whose work is focused more on presentation and layout than on application functionality.
Stakeholder	Any department, group or user who will have to use the WCMS, or will be affected by it.
Static publishing	Publishing model whereby ‘static’ HTML pages are generated by the WCMS, which are then delivered to a standard web server. Also known as ‘batch publishing’, this model often involves a scheduled publishing cycle. The alternative model is ‘dynamic publishing’.
System administrators	Staff who maintain the WCMS at the enterprise level; this may include template creation, role-creation, user-account maintenance; workflow rules; site creation; and so forth. Ideally, this is not a technical person, and he/she could perform these functions without having to software code or system engineering.
System engineers	Technical staff who maintain the machine and Web server hosting the WCMS, and related portions of the WCMS.
Tool user:	County staff whose job requires them to use the WCMS, including: site administrators, system administrators, system engineers, Web developers/designers, content developers, content reviewers, content editors, content approvers, and content publishers.
Topic	In the context of a WCMS, this equates to a single page of web content, or similar. The smallest unit of content that is typically managed by a WCMS.
Usability	How ‘easy to use’ a system is. Includes characteristics such as learnability, memorability, simplicity, consistency, etc.
User	See "site users" and "tool users."
User-centered design	A defined process for including users throughout the stages of a project. The goal is to deliver a usable system that meets business needs.
Version control	Mechanism for tracking all changes to the information in the repository. Allows earlier revisions to be retrieved, or compared to the current content.
WAN	Wide area network (WAN) is the network that connects geographically-dispersed users. Usually slower than a LAN.
Web WCMS	See ‘WCMS’.
Weblog	The general term for a model of publishing that most closely models the concept of an ‘online diary’, which consists of individual entries listed in date

Term	Definition
	order.
Web services	Web services is an umbrella term for a range of XML-based protocols and processes for communicating between organizations and systems. The key goal of the web services approach is to provide platform-neutral interoperability.
Web designer / developer	Technical staff who work with HTML, CSS, and images to create templates for use in Web sites built by the WCMS. In contrast to work done by software developers, a Web designer/developer is focused more on presentation and layout than on application functionality.
Web site	See ‘corporate Web site’.
Wiki	An alternative model of content publishing, whereby any visitor to a site has the ability to edit any page without requiring additional approval or workflow. Often used to support collaborative content development.
Workflow	Process for routing documents (or pages) between users responsible for working on them. This is often used to implement a review and sign-off process for new or updated content.
XML	eXtensible Markup Language (XML) has been defined by the World Wide Web Consortium (W3C) as a platform- and Contractor-neutral way of storing and communicating information.
WAP	See ‘wireless access protocol’
Web designer/developer	A graphic or multimedia artist who creates prototypes of Web pages, applications, and sites, before those go into production.
Wireless access protocol	Wireless access protocol (WAP) is one of the current mechanisms for delivering content to mobile phones and other mobile or hand-held devices.